

## **REMARKS**

This is a full and timely response to the Non-Final Office Action dated April 6, 2005.

Upon entry of the amendments in this response, claims 1-14, 17-43 and 46-58 remain pending. In particular, Applicants have amended claims 13, 17-18, 42 and 46-47 and have canceled claims 15-16 and 44-45 without prejudice, waiver, or disclaimer. Applicants have canceled claims 15-16 and 44-45 merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

### **I. Allowable Subject Matter**

The Office Action indicates that claims 19-29 and 48-58 are allowed. Further, Applicants appreciate Examiner's indication that claims 2-12, 17-18, 31-41 and 46-47 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **II. Claims 1, 13-14, 30 and 42-43 are Patentable Over *Hui* in View of *Kawano***

The Office Action rejects claims 1, 13-16, 30 and 42-45 under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,198,749 to Hui, et al. ("*Hui*") in view of U.S. Patent 5,933,605 to Kawano, et al. ("*Kawano*"). Applicants respectfully traverse the rejection and submit that the rejection under §103 should be withdrawn for any of the following reasons, each of which are separately discussed below:

- A. the Office Action fails to establish a *prima facie* case of obviousness because the combination of *Hui* and *Kawano* does not teach each and every claim limitation; and

B. the Office Action fails to establish a *prima facie* case of obviousness because the Office Action has not established the proper suggestion or motivation to combine *Hui* and *Kawano* in the manner suggested.

**A. The Proposed Combination of References Fails to Teach All Elements**

***Independent Claim 1***

Applicants respectfully submit that independent claim 1 is patentable over the proposed combination of *Hui* and *Kawano* for at least the reason that the references viewed separately, or in combination, fail to disclose, teach, or suggest ***“the plurality of DSL transceivers in communication with each other via a plurality of DSL transceiver data transmission links”*** as recited in independent claim 1.

For a proper rejection of a claim under 35 U.S.C. §103, the cited reference must disclose, teach, or suggest all elements/features/steps of the claim at issue. *See In re Dow Chemical.*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988) and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

Applicants agree with the Office Action that “*Hui* does not further teach wherein the plurality of DSL transceivers are in communication with each other via a plurality of DSL transceiver data transmission links.” (Office Action, page 3). Thus, the Office Action apparently admits that *Hui* does not teach or suggest ***“the plurality of DSL transceivers in communication with each other via a plurality of DSL transceiver data transmission links”*** as recited in independent claim 1.

Additionally, *Kawano* also does not disclose, teach, or suggest ***“the plurality of DSL transceivers in communication with each other via a plurality of DSL transceiver data***

*transmission links*” as recited in independent claim 1. However, the Office Action alleges that “*Kawano* teaches plurality of computers comprising transceivers, coupled to an interface and further communicating with each other via transmission line,” and that “it would have been obvious to one skilled in the art at the time of the invention to modify *Hui*’s teaching by connecting the modems together as taught by *Kawano* for the purpose of communicating data between the modems, thus include a function of routing and transferring.” (Office Action, page 3).

At most, *Kawano* discloses that a "network system includes a plurality of transmission lines 4, 41, 42 . . . each having a sub-network, a plurality of inter-network connectors 5 for connection between the transmission lines 4, 41, 42 . . . , computers 201 to 207 connected to the transmission line 4, and computers 211 to 217 connected to **the transmission line 41.**" (Emphasis added; Col. 5, lines 58-64). Thus, at most, *Kawano* discloses that computer systems within the same subnetwork (i.e., connected to a common transmission line) are not in communication with a respective computer system via *respective* transmission lines. Rather, the computer systems are all connected via a common transmission line.

Furthermore, *Kawano* does not teach of DSL (digital subscriber line) transceivers, but rather of computer systems. The Office Action apparently makes the conclusion that computers are the equivalence of DSL transceivers. The two are functionally different while operating in different environments (i.e., an IP network versus the Public Switched Telephone Network) and are not equivalent. Accordingly, *Kawano* does not disclose “*the plurality of DSL transceivers in communication with each other via a plurality of DSL transceiver data transmission links*” as recited in independent claim 1.

Thus, the cited references do not disclose, teach, or suggest, either implicitly or explicitly, all the elements of claim 1 and therefore, the rejection should be withdrawn.

### ***Independent Claim 30***

Applicants respectfully submit that independent claim 1 is patentable over the proposed combination of *Hui* and *Kawano* for at least the reason that the references viewed separately, or in combination, fail to disclose, teach, or suggest ***“the plurality of DSL transceivers in communication with each other via a plurality of DSL transceiver data transmission links”*** as recited in independent claim 30.

Applicants agree with the Office Action that “*Hui* does not further teach wherein the plurality of DSL transceivers are in communication with each other via a plurality of DSL transceiver data transmission links.” (Office Action, page 3). Thus, the Office Action apparently admits that *Hui* does not teach or suggest ***“the plurality of DSL transceivers in communication with each other via a plurality of DSL transceiver data transmission links”*** as recited in independent claim 30.

Additionally, *Kawano* also does not disclose, teach, or suggest ***“the plurality of DSL transceivers in communication with each other via a plurality of DSL transceiver data transmission links”*** as recited in independent claim 30. However, the Office Action alleges that “*Kawano* teaches plurality of computers comprising transceivers, coupled to an interface and further communicating with each other via transmission line,” and that “it would have been obvious to one skilled in the art at the time of the invention to modify *Hui*’s teaching by connecting the modems together as taught by *Kawano* for the purpose of communicating data

between the modems, thus include a function of routing and transferring.” (Office Action, page 3).

At most, *Kawano* discloses that a "network system includes a plurality of transmission lines 4, 41, 42 . . . each having a sub-network, a plurality of inter-network connectors 5 for connection between the transmission lines 4, 41, 42 . . . , computers 201 to 207 connected to the transmission line 4, and computers 211 to 217 connected to **the transmission line 41.**" (Emphasis added; Col. 5, lines 58-64). Thus, at most, *Kawano* discloses that computer systems within the same subnetwork (i.e., connected to a common transmission line) are not in communication with a respective computer system via *respective* transmission lines. Rather, the computer systems are all connected via a common transmission line.

Furthermore, *Kawano* does not teach of DSL (digital subscriber line) transceivers, but rather of computer systems. The Office Action apparently makes the conclusion that computers are the equivalence of DSL transceivers. The two are functionally different while operating in different environments (i.e., an IP network versus the Public Switched Telephone Network) and are not equivalent. Accordingly, *Kawano* does not disclose "***the plurality of DSL transceivers in communication with each other via a plurality of DSL transceiver data transmission links***" as cited in independent claim 30.

Thus, the cited references do not disclose, teach, or suggest, either implicitly or explicitly, all the elements of claim 30 and therefore, the rejection should be withdrawn.

### ***Independent Claim 13***

Applicants have amended claim 13 to recite, "***via serially connected DSL transceivers in communication with each other.***" Unlike claim 13, neither *Hui* nor *Kawano* disclose "***via serially connected DSL transceivers in communication with each other***" as recited in claim 13.

*Hui* discloses at most, “a plurality of analog modems each having a first terminal connected in common to the low-speed side of the inverse multiplexer and each having a second terminal whereby a high-speed digital signal input to the high-speed side of the inverse multiplexer is output on the second terminal of the modems as a plurality of low-speed analog signals and vice versa.” (Col. 2, lines 22-28). Thus, at most, *Hui* discloses a plurality of analog modems that are in communication with an inverse multiplexer. Accordingly, *Hui* does not disclose, teach, or suggest “*via serially connected DSL transceivers in communication with each other*” as recited in claim 13.

Additionally, *Kawano* also does not disclose, teach, or suggest (and the Office Action does not allege *Kawano* discloses, teaches, or suggests) “*via serially connected DSL transceivers in communication with each other*” as recited in claim 13. *Kawano* teaches of “computers 201 to 207 connected to **the** transmission line 4, and computers 211 to 217 connected to **the** transmission line 41.” (Emphasis added; Col. 5, lines 62-64). Thus at most, *Kawano* teaches of a plurality of computer systems in communication with each other via a **common transmission line**. Connecting the computer systems serially such that data would be processed by each computer would run counter to what *Kawano* focuses on – reducing data transmission within a computer network. Accordingly, *Kawano* does not disclose, teach, or suggest “*via serially connected DSL transceivers in communication with each other*” as recited in claim 13.

For at least these reasons, Applicants respectfully submit that independent claim 13 defines over the proposed combination of *Hui* and *Kawano* and, therefore, should be allowed.

### ***Independent Claim 42***

Applicants have amended claim 42 to recite, “***via serially connected DSL transceivers in communication with each other.***” Unlike claim 42, neither *Hui* nor *Kawano* disclose “***via serially connected DSL transceivers in communication with each other***” as recited in claim 42. *Hui* discloses at most, “a plurality of analog modems each having a first terminal connected in common to the low-speed side of the inverse multiplexer and each having a second terminal whereby a high-speed digital signal input to the high-speed side of the inverse multiplexer is output on the second terminal of the modems as a plurality of low-speed analog signals and vice versa.” (Col. 2, lines 22-28). Thus, at most, *Hui* discloses a plurality of analog modems that are in communication with an inverse multiplexer. Accordingly, *Hui* does not disclose, teach, or suggest “***via serially connected DSL transceivers in communication with each other***” as recited in claim 42.

Additionally, *Kawano* also does not disclose, teach, or suggest (and the Office Action does not allege *Kawano* discloses, teaches, or suggests) “***via serially connected DSL transceivers in communication with each other***” as recited in claim 42. *Kawano* teaches of “computers 201 to 207 connected to **the** transmission line 4, and computers 211 to 217 connected to **the** transmission line 41.” (Emphasis added; Col. 5, lines 62-64). Thus at most, *Kawano* teaches of a plurality of computer systems in communication with each other via a **common transmission line**. Connecting the computer systems serially such that data would be processed by each computer would run counter to what *Kawano* focuses on – reducing data transmission within a computer network. Accordingly, *Kawano* does not disclose, teach, or suggest “***via serially connected DSL transceivers in communication with each other***” as recited in claim 42.

For at least these reasons, Applicants respectfully submit that independent claim 42 defines over the proposed combination of *Hui* and *Kawano* and, therefore, should be allowed.

***Dependent Claims 14 and 43***

Furthermore, for at least the reason that dependent claim 14 incorporates the limitations of 13 and dependent claim 43 incorporates the limitations of claim 42, Applicants respectfully assert that these claims are also in condition for allowance.

***Dependent Claims 15-16 and 44-45***

Claims 15-16 and 44-45 have been rejected under 35 U.S.C. §103(a) as alleged in the Office Action. In view of the cancellation of claims 15-16 and 44-45, the §103(a) rejections of those claims are rendered moot.

***Dependent Claims 2-12 and 31-41***

Applicants submit that the objection to dependent claims 2-12 and 31-41 is rendered moot in light of any of the arguments made above and, therefore, dependent claims 2-12 and 31-41 are allowable as a matter of law for at least the reason that claims 2-12 and 31-41 contain all the features and elements of their corresponding independent claims 1 and 30.

***Dependent Claims 17-18 and 46-47***

Applicants submit that the objection to dependent claims 17-18 and 46-47 is rendered moot in light of any of the arguments made above and, therefore, dependent claims 17-18 and



46-47 are allowable as a matter of law for at least the reason that claims 17-18 and 46-47 contain all the features and elements of their corresponding independent claims 13 and 42.

**B. The Office Action Fails to Establish a Proper Motivation to Combine *Hui* and *Kawano* as Suggested**

When an obviousness determination is based on multiple prior art references, there must be a showing of some “teaching, suggestion, or reason” to combine the references. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997) (also noting that the “absence of such a suggestion to combine is dispositive in an obviousness determination).

Applicants respectfully traverse the Office Action’s claim that it would have been obvious to one skilled in the art at the time of the invention to combine the teachings of *Hui* and *Kawano*. The inventions of *Hui* and *Kawano* are functionally and structurally different, and there is a lack of motivation to combine the selected features of the two teachings. *Kawano* relates to a plurality of distributed computer systems which are interconnected through transmission lines (e.g., local area networks, or LANs) and communicate via the TCP/IP protocol. *Hui* apparently relates to a plurality of analog modems connected to the Public Switched Telephone Network (PSTN) via analog lines (e.g., POTS telephone lines). Those skilled in the art would find it physically incompatible to combine the two references in the manner suggested. Also, the focus of *Hui* is to maximize data transmission within the system, whereas *Kawano* seeks to minimize data transmission by evaluating reception/non-reception condition information and routing data accordingly.

The Office Action has improperly used the non-analogous reference of *Kawano* in asserting the rejection of claims 1 and 30. “In order to rely on a reference as a basis for rejection

of an applicant's invention, the reference *must either be in the field of the applicant's endeavor* or, if not, then be *reasonably pertinent to the particular problem with which the inventor was concerned.*" (*Emphasis Added.*) MPEP 2141.01(a); *In re Oetiker*, 977 F.2d 1443 (Fed. Cir. 1992); *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *Application of Wood*, 599 F.2d 1032, 036, 202 USPQ 171 (CCPA 1979). If the reference is reasonably pertinent to the particular problem addressed by the invention, then it is analogous. *Application of Wood* at 1036. This speaks to the fact that the inventor can not possibly be aware of every teaching in every art. *Application of Wood* at 1036.

*Kawano* is not in the "field of the Applicants' endeavor," as required by the first prong of analysis required by *Oetiker*. *Kawano* is directed toward a method of reducing data transmission within a computer network connected via transmission lines (e.g., local area networks). Applicants' field of endeavor relates to a system and method for combining a plurality of digital subscriber line communication (DSL) links at both sides of a DSL link in order to achieve an overall higher data transfer rate and/or a longer reach in the context of the Public Switched Telephone Network (PSTN). Thus, the endeavors are clearly different and the analysis must shift to the second prong of the analysis: whether the reference is "*reasonably pertinent to the particular problem with which the inventor was concerned.*"

*Kawano* is not reasonably pertinent to the particular problem with which the inventor was concerned. The use of references in a rejection is improper if one of ordinary skill would not have reasonably consulted them and applied their teaching in seeking a solution to the problem addressed by the instant invention. *Heidelberger Druckmaschinen v. Hantscho Commercial Products*, 21 F.3d 1068, 1071, 30 USPQ2d 1377 (Fed. Cir. 1994). Here, *Kawano* is directed toward a method of reducing data transmission across a distributed computer network comprised

of a plurality of sub-networks in order to efficiently utilize bandwidth. Unlike *Kawano*, claims 1 and 30 relate to a system and method for combining a plurality of digital subscriber line communication (DSL) links at both sides of a DSL link in order to achieve an overall higher data transfer rate and/or a longer reach over the DSL link between two locations. Applicants submit that *Kawano* relates to another technical field with different involved problems and scope. For example, unlike the present invention which relates to combining DSL communication links in order to achieve higher data rates, *Kawano* relates to a method of information filtering in a large-scale computer distributed system in order to reduce the amount of data flowing in a communication line.

Thus, *Kawano* meets both prongs, i.e., it is not within the field of Applicants' endeavor and it is not reasonably pertinent to the problem addressed by the present invention. Applicants therefore respectfully request that this rejection be withdrawn and the claims allowed.

### **CONCLUSION**

Applicants respectfully submit that all claims are now in proper condition for allowance, and respectfully request that the Examiner pass this case to issuance. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Daniel R. McClure', written over a horizontal line.

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